

PRELIMINARY AMENDMENT
Con of U.S. Appln. No. 09/246,145

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(cont'd)

directing said radiant energy toward a luminescent material, said luminescent material emitting visible light when radiated by said radiant energy, via a notch formed in said optical fiber,

wherein said optical fiber is adapted to direct said radiant energy within said optical fiber toward said luminescent material.

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43. (Amended) An optical switch, comprising;

an optical fiber;

a luminescent material;

a notch formed in said optical fiber adapted to direct a first type of radiant energy within said optical fiber toward said luminescent material; and

an optical pickup arranged to optically communicate with said luminescent material.

REMARKS

Applicants cancel claims 6-18, 21-42 and 44-48 which have been allowed in the parent of this Continuation Application. Therefore, claims 1-5, 19, 20 and 43 are now pending in the application.

Applicants thank the Examiner and the Examiner's Supervisor for conducting a personal interview with Applicants' representative on May 1, 2001.

Applicants correct claim 43 (as discussed during the interview with the Examiner) to more positively recite the structural features of this embodiment of Applicants' invention.

Applicants submit that, as agreed during the interview with the Examiner, this amendment does

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not narrow the scope of the original claim 43, but is there to edit claim 43 for precision of language without narrowing this claim.

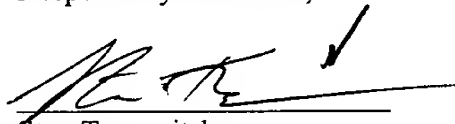
Also, Applicants' amend claims 1, 2 and 20 to more definitively recite the embodiments of Applicants' invention as claimed therein (see Applicants' Amendment filed December 14, 2000 in the parent of this Continuation Application). As with the amendment to claim 43, Applicants submit that these amendments do not narrow the scope of the original claims 1, 2 and 20, but are there to edit claims 1, 2 and 20 for precision of language without narrowing these claims.

Accordingly, these amendments to claims 1, 2, 20 and 43 are not subject to a *Festo* estoppel.

Also, Applicants file herewith Proposed Drawing Corrections containing corrections to Figs. 12 and 14 approved by the Examiner in the parent of this Continuation Application.

Entry and consideration of this Amendment and Proposed Drawing Correction are respectfully requested.

Respectfully submitted,


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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Page 15, delete the second paragraph and insert:

As shown in Figure 8, in an optical luminescent display device 120, two optical fibers 32 are used to provide radiation to a luminescent material 36. For a double illumination luminescent material, UV light 44 is provided by one optical fiber 32 to sensitize the luminescent material 36, located between the optical fibers 32. To cause the luminescent material 36, to emit visible light, IR light is provided by the other optical fiber 32. Ideally, a mirror 48 may be used to increase the amount of UV light 44 that reaches the luminescent material 36 reduce the amount of visible light emitted by the luminescent material entering the optical fiber 32 having the mirror 48. A mirror 48 is not used on the other optical fiber 32 because the visible light shines through this optical fiber 32 for viewing. The direction of viewing of the device in Figure 8 is shown by arrow A.

Page 16, delete the second paragraph and insert

Figure 10 shows an optical luminescent display device 150 which has a structure similar to that shown in Figure 8, accept that, by way of example, a different notch 152 configuration is shown. A variety of combinations of notch shape and location are possible Figure 11 adds reflective filter 154. The reflective filter 154 can be configured to allow UV light 44 to pass, but reflect visible light. This would enhance the visible light emitted from the luminescent material 36 in the direction of the viewer. The direction of viewing is shown by arrow A. Notch 152 may be open or filled with filling material 38.

Page 16, delete the paragraph bridging pages 16 and 17 and insert

Figure 12 [involves] shows an optical luminescent display device 180 which has a notch 182 containing a reflection pyramid 190. The reflection pyramid 190 is ideally formed with its peak set in form the edge of the optical fiber 32, to distribute radiation to the luminescent material 36, as shown by the exemplary small arrows, regardless of the direction from which the radiation is provided. The reflection pyramid 190 can be inserted into the notch 182, or the notch 182 can be formed with an inner edge forming a reflection pyramid 190. The area 192 within the notch 182 may be left open or, preferably, filled with a filling material. The optional dichroic filter 186 increases the amount of IR light 46 and discharge UV light 188 directed toward the luminescent material 36. However, visible light is allowed to pass through to the viewer, which is viewing in the direction of the arrow A. Discharge UV light 188 is provided to adjust the charge within the luminescent material 36. The discharge UV light 188, at a wavelength of between 200 and 380 nm, increases the charge of the luminescent material 36 so as to prevent or discontinue the emission of visible light form the luminescent material 36. This, in essence, restarts the sensitizing/excitation process of the luminescent material 36. Another process of applying UV light 44 can be followed by IR light 46 to result in the emission of visible light by the luminescent material 36. See Figures 21 and 22 as examples of timing charts that could be used in the application of discharge UV light 188, IR light 46, and UV light 44. The timing of Figure 22 is preferred over that of Figure 21, because the UV light has time to sensitize the luminescent material prior to the application of the exciting IR light.

Page 17, delete the second paragraph and insert

Figure 13 shows an optical luminescent display device 210 which has notches 212 formed on the outer sides of the optical fibers 32. Figure 14 adds a dichroic filter 186. The dichroic filter 186 reflects UV light and IR light, but allows visible light to pass. The dichroic filter 186 increases the amount of IR light 46 and discharge UV light 188 directed toward the luminescent material 36. However, visible light is allowed to pass to the viewer, who is viewing in the direction of the arrow A. Figure 14 shows the preferred location and orientation of the notches 212 with respect to the luminescent material 36 for the optical display panel of the invention.

IN THE CLAIMS:

Claims 6-18, 21-42 and 44-48 are cancelled.

Please amend claims 1, 2, 20 and 43 as follows:

1. (Amended) [An] A combination comprising:

an optical fiber containing a notch, and

a luminescent material,

wherein said notch is configured so as to direct [radiation] radiant energy within the fiber toward [a] the luminescent material.

2. (Amend) An optical luminescent display device, comprising:

a luminescent material; and

a side emitting optical fiber [means] adapted for supplying radiant energy to said luminescent material.

20. (Amended) A method for causing a luminescent material to emit visible light, comprising:

[an optical fiber;

a radiant energy source] emitting radiant energy into [said] an optical fiber; and

directing said radiant energy toward a luminescent material, said luminescent material [capable of] emitting visible light when radiated by said radiant energy[;], via a notch formed in said optical fiber,

wherein said optical fiber is adapted to direct said radiant energy within said optical fiber toward said luminescent material.

43. (Amended) An optical switch, comprising;

an optical fiber;

a luminescent material;

a notch formed in said optical fiber adapted to direct a first type of radiant energy within said optical fiber toward said luminescent material; and

an optical pickup [for optical communication] arranged to optically communicate with said luminescent material.